Remarks: General

The claims have been amended by rewriting Claim 1 to cover a more particularized embodiment of this invention. In addition, Claims 2, 7 and 8 have been canceled without prejudice to or disclaimer of the subject matter thereof.

The limitations of Claims 2 and 7 have been incorporated into Claim 1. Also in Claim 1, and in Claim 11, various words, phrases and/or textual passages that may not have been present in the claims as originally filed, or as previously amended, have been added by amendment. No new matter is added in those claims, however, as basis in the specification for those amendatory words, phrases and/or textual passages may be found as follows:

in Claim 1, support for the recitation as to crystallinity may be found in original Claim 8;

in Claim 1, support for the recitation as to end of melting may be found on page 7 at lines 19~27; and

in Claim 11, support for the recitation as to homopolymer segments may be found on page 7 at lines 6~10.

The amendments to Claims 9 and 10 are not related to patentability inasmuch as they are made only to adjust dependency.

A request for continued examination under 37 CFR §1.114 is enclosed, the fee for which should be charged to Deposit Account No. 04-1928 (E.I. du Pont de Nemours and Company). A petition under 37 CFR §1.136 for a three-month extension of time to respond the Examiner's action is enclosed, the fee for which should also be charged to Deposit Account No. 04-1928.

By Applicant's calculation, no fee is due by reason of this amendment to the claims. If any fee other than or in addition to those mentioned specifically above is required to authorize or obtain consideration of this response, please charge such fee to Deposit Account No. 04-1928.

Claims 1, 3~6, 9~12 and 43~47 are now active in the application. Applicant hereby requests reconsideration and further examination of the application in view of the reasons it has set forth below for allowance of the claims.

Remarks: Detailed Action

I.

The Examiner has rejected Claims 1~3, 11~12, 44 and 47 under 35 U.S.C. §102 as being anticipated by WO 03/008,680 ("Sen"). Claim 2 has been canceled.

Sen discloses (1) a bicomponent fiber of a core/sheath construction in which the core comprises a thermoplastic elastomer, and the sheath comprises an elastomeric polymer such as a homogeneously branched polyolefin; and (2) a biconstituent fiber in which one constituent comprises a thermoplastic elastomer, and the other constituent comprises an elastomeric polymer such as a homogeneously branched polyolefin.

In the fibers of Sen, the component that serves as the core in a core/sheath construction is prepared from a polymer illustrated by a diblock, triblock or multiblock copolymer. Some of the different copolymers disclosed include those having blocks prepared, variously, from styrenes, urethanes or esters, and include specifically a polyether block amide. The other component, which serves as the sheath in a core/sheath construction, is prepared from a polymer illustrated by a homogeneously branched polyolefin.

The fibers of Sen in bicomponent form are defined by their stated core/sheath structure, and the structure of the biconstituent fiber of Sen is more particularly defined as being "a fiber comprising an intimate blend of at least two polymer constituents. The structure of the biconstituent fiber is an islands-in-the-sea construction." (Page 6/Lines 21~23)

Structural differences have previously been noted between the fibers of Sen and the fibers claimed herein, in which an olefinic thermoplastic, elastomeric polymer is dispersed in a matrix of a segmented thermoplastic, elastomeric polymer. In addition, however, Claim 1 has been amended to provide that the olefinic thermoplastic, elastomeric polymer in the claimed fiber is a propylene polymer characterized by particular features of crystallinity and end of melting.

In the description in Sen of the elastomeric polymer that is used as the sheath in a sheath/core construction, or as a component in a bicomponent fiber, there is no teaching or suggestion of the use of a propylene polymer as now described in Claim 1. In the description in Sen of that polymer, the emphasis is placed on a homogeneously branched polyolefin.

In view of the distinctions between Sen and the subject matter of Claims 1, 3, 11~12, 44 and 47 as discussed above, Applicant respectfully requests that the Examiner withdraw the rejection of those claims under 35 U.S.C. §102.

II.

The Examiner has rejected Claims 4~6 under 35 U.S.C. §103(a) as being unpatentable over Sen in view of US 6,380,290 ("Bonte").

Although Claims 4~6 have been amended such that, instead of defining a particular poly(ether ester), they each now describe a particular type of segmented thermoplastic, elastomeric polymer, they remain patentable over a combination of Sen and Bonte for the same reasons as previously advanced and as set forth above.

Bonte discloses a segmented polyetherester copolymer composition having improved thermooxidative stability as imparted by a stabilizer of a selected combination of phenolic antioxidants and aromatic amines. This composition is needed for molded automotive parts that must exhibit superior flexibility and deformation without fracture over a long lifetime.

Bonte does not disclose or suggest any information about blending this segmented polyetherester copolymer with a propylene thermoplastic, elastomeric polymer; or about the use of this segmented polyetherester copolymer, or any other material, for the preparation of a fiber. Bonte therefore offers nothing that serves to overcome the deficiency of Sen as a teaching or suggestion of the fiber in Claims 4~6, and Applicant therefore respectfully requests that the

Examiner withdraw the rejection of those claims under 35 U.S.C. §103(a).

III.

The Examiner has rejected Claims 7~10 and 43~46 under 35 U.S.C. §103(a) as being unpatentable over Sen in view of WO 93/15251 ("Gessner"). Claims 7 and 8 have been cancelled.

Gessner discloses a nonwoven fabric produced by melt spinning substantially continous filaments of a thermoplastic olefin-based elastomer. The polymers employed by Gessner may include a thermoplastic block copolymer elastomer such as a polypropylene based co- or terpolymer. The polymer is illustrated by a heterophasic block copolymer containing a (i) crystalline base polymer block of a propylene/α-olefin copolymer, (ii) an amorphous copolymer block of an α-olefin and propylene with or without a diene or other termonomer, and (iii) a semi-crystalline copolymer block of primarily an α-olefin. (Col/line 10/27 to 11/4). Other elastomeric polymers that are useful according to Gessner include polypropylene, polyether/ester elastomers, and blends thereof.

Gessner thus does disclose that the polymer from which filaments, and ultimately a fabric, may be made therein includes a blend of polypropylene and polyether/ester elastomer. There is, however, no teaching or suggestion in Gessner of the use of the particular type of propylene polymer as described in Claim 1, or that such propylene polymer is dispersed in a matrix of a segmented thermoplastic, elastomeric polymer. Such a blend is not used in any of the examples in this reference.

Gessner thus does not teach or suggest that a fiber may be prepared in which a propylene thermoplastic, elastomeric polymer is dispersed in a matrix of a segmented thermoplastic, elastomeric polymer, and it offers nothing that serves to overcome the deficiency of Sen as a teaching or suggestion of the fiber in Claims 9, 10 and 43~46. Applicant therefore respectfully requests that the Examiner withdraw the rejection of those claims under 35 U.S.C. §103(a).

V.

Applicant has reviewed the references that have been made of record but are not relied on, and submits that they are of no greater pertinence to the pending claims than the references discussed in detail above. Although US 5,565,158 ("Sullivan") does disclose spinning a yarn in islands-in-the-sea form, it does not teach or suggest that a fiber may be prepared in which a propylene thermoplastic, elastomeric polymer, as described in Claim 1, is dispersed in a matrix of a segmented thermoplastic, elastomeric polymer. One of the primary example in Sullivan (at 10/13~21) involves a yarn in which nylon fibrils are dispersed in a PET matrix.

In view of the foregoing, Applicant submits that all of the Examiner's objections and rejections have been properly traversed, and that the pending claims are in condition for allowance, request for which is hereby respectfully made.

Respectfully submitted,

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I hereby certify that this correspondence is being facsimile transmitted to the U.S. Patent and Trademark Office on June 21, 2006.

Date: June 21, 2006

John A. Langworthy

Appendix A

(i) Amendments
in marked-up form to
Claims 1, 4~6 and 9~12, and

(ii) Status of all other claims

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1. (currently amended) A fiber comprising (a) a segmented thermoplastic, elastomeric polymer selected from the group consisting of poly(ether ester), poly(ester ester), poly(ester amide), and poly(ether amide), and (b) an uncrosslinked ~~olefinic~~ propylene thermoplastic, elastomeric polymer characterized by a crystallinity of from about 10 to about 40% and an end of melting at about 160°C as determined by differential scanning calorimetry, wherein the ~~olefinic~~ propylene thermoplastic, elastomeric polymer is dispersed in a matrix of the segmented thermoplastic, elastomeric polymer.

2. (cancelled).

3. (previously presented) A fiber according to Claim 1 wherein the segmented thermoplastic, elastomeric polymer is poly(ether ester).

4. (currently amended) A fiber according to Claim 2~~1~~ wherein the ~~poly(ether-ester) comprises polybutyleneterephthalate and polytetramethyleneoxide~~ segmented thermoplastic, elastomeric polymer is poly(ester ester).

5. (currently amended) A fiber according to Claim 4~~1~~ wherein the ~~weight content of polybutyleneterephthalate is from about 10% to about 70% and the weight content of polytetramethyleneoxide is from about 30% to about 90%~~ segmented thermoplastic, elastomeric polymer is poly(ester amide).

6. (currently amended) A fiber according to Claim ~~2~~1 wherein the ~~poly(ether ester) comprises polybutyleneterephthalate and repeat units of 3-methyl tetrahydrofuran and tetrahydrofuran~~ segmented thermoplastic, elastomeric polymer is poly(ether amide).

7. (cancelled).

8. (cancelled)

9. (currently amended) A fiber according to Claim ~~7~~1 wherein the propylene polymer is ethylene/propylene copolymer.

10. (currently amended) A fiber according to Claim ~~7~~1 wherein the propylene polymer is propylene homopolymer.

11. (currently amended) A fiber according to Claim 10 wherein the ~~olefinic thermoplastic, elastomeric polymer is an ethylene/ C_{4-20} copolymer~~ propylene homopolymer comprises crystalline segments of isotactic polypropylene and amorphous segments of atactic polypropylene.

12. (currently amended) A fiber according to Claim 1 which comprises the ~~olefinic thermoplastic, elastomeric~~ propylene polymer in an amount of from about 3% to about 80% by weight.

13 ~ 42. (canceled).

43. (previously presented) A yarn prepared from a fiber according to Claim 1.

44. (previously presented) A fabric prepared from a fiber according to Claim 1.

45. (previously presented) A garment prepared from a fiber according to Claim 1.

46. (previously presented) In an article for human hygiene, a stretchable band prepared from a fiber according to Claim 1.

47. (previously presented) A fiber according to Claim 1 further comprising a surfactant or compatibilizer.

48 ~ 49. (canceled).